

**Detached House - 1990 - Cavity wall construction - 138m<sup>2</sup> (1486ft<sup>2</sup>)**

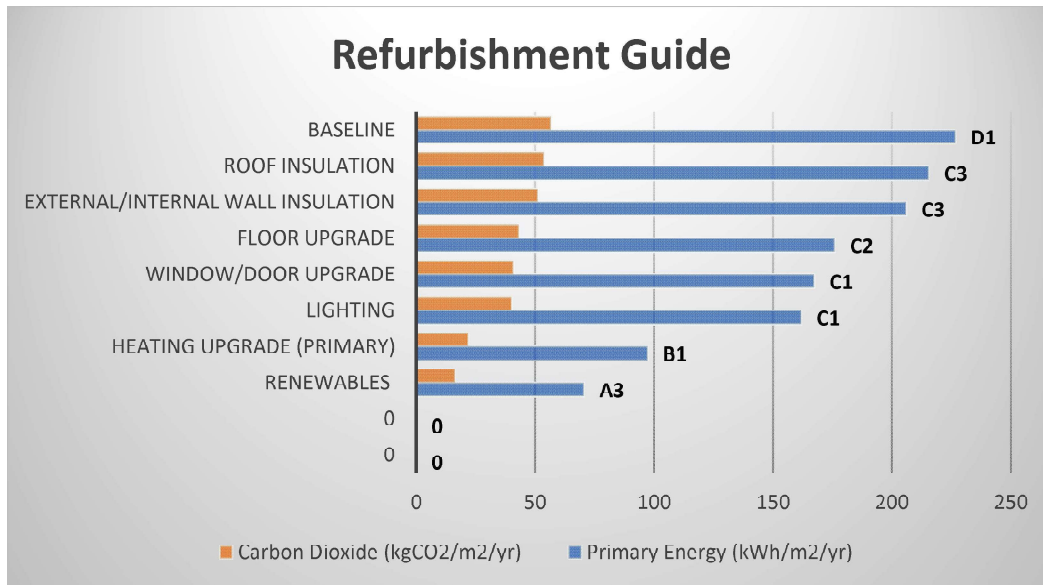


Maree, Oranmore, County Galway

Existing Building Details			
Building Elements		Insulation Thickness (mm)	U-Value (W/m <sup>2</sup> .K)
Walls	360mm Cavity Wall, Fully Insulated	50mm-100mm	0.33
Roof	Pitched Roof insulated at ceiling	200mm-250mm	0.25
Floor	Solid Floor	Unknown	0.64
Windows	Double Glazed Air filled	N/A	2.7-3.1
Doors	Glazed Door	N/A	3

Existing Heating Characteristics			
Heating System		Energy	Efficiency (%)
Primary Heating System	Oil boiler, primary pipework insulated	Oil	75%-80%
Secondary Heating System	Stove	Multi fuel	70%
Domestic Hot Water	Heated with Primary heating system & Electric immersion		
Cylinder	No insulation on cylinder or pipes		
Controls	Timer, no TRV		

Domestic Retrofit Guidelines (Step by Step)				Energy Consumption (kWh/m <sup>2</sup> /yr)	Carbon Emissions (CO <sub>2</sub> ) (kgCO <sub>2</sub> /m <sup>2</sup> /yr)	Building Energy Rating (BER)
Energy Efficient Measures			Target U-Value (W/m <sup>2</sup> .K)	Current Usage (226.74)	Current Emissions (56.73)	Current BER (D1)
1	Roof insulation	Loftwool Insulation top-up to achieve 300mm-400mm across all roof area.	0.13 - 0.16	215.5	53.74	C3
2	External/Internal Wall Insulation	Install Wall Insulation (internal or External), thickness 50mm-100mm	0.18 - 0.21	205.99	51.21	C3
3	Floor Upgrade	Insulate solid floor with rigid insulation	0.15 - 0.18	175.94	43.23	C2
4	Window/Door Upgrade	Replace existing glazing with Double/Triple glazed,(low E) units	1.1 - 1.4	167.42	40.92	C1
5	Lighting	Install energy efficient light bulbs (LEDs)	N/A	161.92	40.21	C1
6	Heating Upgrade (Primary)	Air to water heat pump, 6-8kW, two separate heating zones and controller.	N/A	97.36	22.02	B1
7	Renewables	Install 2.4 kWp Solar PV system	N/A	70.64	16.4	A3
8						
9						
10						



Estimated Costs Summary		
Measures	Estimated Costs (€/m <sup>2</sup> )	Estimated Total Costs (€)
1 Roof Upgrade	10 - 15	€ 1,140
2 Wall Insulation	70-100	€ 12,549
3 Floor Upgrade	80 - 100	€ 12,420
4 Window/Door upgrade	250 - 350	€ 5,355
5 Lighting	20/fitting	€ 220
6 Heating Upgrade (Primary)	12,500 (System)	€ 12,500
7 Solar PV	4,400 (2.4 kWp System)	€ 4,400
8 Demand Controlled Ventilation	3,000 (System)	€ 3,000
9 0	0	€ 0
10 0	0	€ 0
<b>Total</b>		<b>€ 51,584</b>
<b>Total Cost to Homeowner including 35% Grant funding</b>		<b>€ 33,530</b>

Savings Summary				
BER Rating	Energy Savings (kWh/m <sup>2</sup> /yr)	Energy Savings (kWh/yr)	Cost Savings (€/yr)	Simple Payback, including 35% Grant Funding (years)
A3	156.1	21,542	€ 1,077	31

Audit site visit completed on 14/11/2019, Audit report edited on 10/12/2019